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NUMBERS & ODDITIES

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Hi folks, an error has crept into my EAM sample in last month's column. I included a 'one' in the sample message but after reading the whole story I'm sure you all know by now that there are NO 'ones' in EAM's. This month's special edition of N&O is about spy stations. Not the normal, average spy stations (YL with 5F groups) but the digital ones. C37A and 6XM8 were the cause of many discussions amongst dxers during the past few years. Several dxers -amongst them also WUNners- have been following these stations for years and one of them sent me the following very interesting manuscript:

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Today I'd like to introduce you to a rather mysterious group of stations, that seem to have no connection but are all centered around one of the Israeli intelligence services (MOSSAD, LAKAM, AMAN or SHABACK).

Probably most of these stations are known to you already, but there seems to be a lot of uncertainty as to who is behind them, so it may be worthwhile taking a closer look at them.

The following calls appear to be involved in this multinational operation, although there are probably a few more which we haven't found out about yet: C37A, 6XM8, CJL, WJI, TFB, RSB1 (QRT?), CIF9, PTI2, CAM, M4W, RK2, KWO (QRT?)

'C37A' and '6XM8':

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These two stations are the most active in the net. They have a daily sked, 7 days a week, which normally starts at 04:30 UTC and continues nonstop until 19:45 UTC (Mo.-Fr.) or until 15:30 UTC (Sat.& Sun.). Modes used are ARQ-E with 288 Bd and normal Baudot telegraphy with 100 Bd, which is used for operational procedures only. Traffic in ARQ-E is always encrypted, using a very effective combination of encryption and data compression.

'C37A' is located in Israel, not very far from Tel Aviv. This was checked out by locals in the outskirts of Tel Aviv (sig. rep. was 59+20dB and no fading on the signal during lousy conditions) and also confirmed with the help of professional grade DF-equipment.

'6XM8', the other end of the link, is located in Germany, probably not more than 100 Km from the city of Bonn. Although we have no

proof, all the data gathered so far, hints at a station run by the German intelligence service (BND).

It is still unknown where exactly the station is located. Monitors in the Bonn area, living very close to the German MFA-building and the Israeli embassy, gave the station a rather weak ground wave signal. This more or less rules out involvement by either of the two installations, which both have huge HF antennae on the roof. However various attempts were conducted to DF the station and each time Bonn appeared to be the source of the signal. The most likely transmitter site is the region northwest of Bonn, bordering with Belgium. This region is packed with military and other dubious installations, and the ideal place for such a low profile operation. We think the site may be located near the town of Monschau, in a place called Hoefen. The BND is known to have a very large monitoring installation in Hoefen.

Although it would appear strange to use a monitoring station for transmission purposes, the BND seems to do just that (eg. the now closed DEA47 in Husum), using the name "Bundesstelle für Fernmeldestatistik" as a cover.

The '6XM8' transmitter site seems to be used by the BND number stations (eg. "Kilo Whiskey"), as well as a couple of other ARQ-E outlets, running at 288, 192 and 96 Baud, always encrypted. Operational messages are sent in CW.

These German stations can be heard on the following frequencies:  
13903 ARQ-E-96, 14950 ARQ-E-288, 15641 ARQ-E-288, 16327 ARQ-E-96,  
16350 ARQ-E-288, 18768 ARQ-E-288, 18772 ARQ-E-288, 20950 ARQ-E-192

These links seem to be directed to other partner intelligence services of the German BND.

The messages sent by 'C37A' to Germany consist of encrypted English text or 5 LGs which are also encrypted using the online compression/encryption algorithm.

You can tell 'C37A' and '6XM8' apart by looking at the shift. The Israeli side uses 330-340 Hz on both ARQ-E and Baudot, whereas the German side uses a narrow 190 Hz. The Israelis transmit at 100.87 Bd and the Germans use exactly 100 Bd Baudot.

Here is the current 'C37A'/'6XM8' frequency list:

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Frequency      Channel nr.    Callsign  Mode  
7569.50        (??)          C37A     ARQ-E-288/ITA-2 100.87  
9208.00        (53)          6XM8     ARQ-E-288/ITA-2 100  
10348.00       (54)          6XM8     ARQ-E-288/ITA-2 100  
10749.50       (??)          C37A     ARQ-E-288/ITA-2 100.87  
11434.50       (??)          C37A     ARQ-E-288/ITA-2 100.87
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12224.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
12276.00	(56)	6XM8	ARQ-E-288/ITA-2 100
13073.50	(25)	C37A	ARQ-E-288/ITA-2 100.87
13419.00	(57)	6XM8	ARQ-E-288/ITA-2 100
14379.50	alternate during QRM	C37A	ARQ-E-288/ITA-2 100.87
14386.50	alternate during QRM	C37A	ARQ-E-288/ITA-2 100.87
14390.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
14398.00	alternate during QRM	C37A	ARQ-E-288/ITA-2 100.87
15688.00	(59)	6XM8	ARQ-E-288/ITA-2 100
16312.50	(28)	C37A	ARQ-E-288/ITA-2 100.87
16457.00	(60)	6XM8	ARQ-E-288/ITA-2 100
17387.00	(61)	6XM8	ARQ-E-288/ITA-2 100
17422.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
17427.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
17437.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18547.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18557.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18275.00	(62)	6XM8	ARQ-E-288/ITA-2 100
20465.50	(??)	C37A	ARQ-E-288/ITA-2 100.87

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The following traffic from 'C37A' to '6XM8' shows that decisions are made on the Israeli side of the link: 12:55 UTC 12.May.95 13072.50 kHz. (C37A was having serious problems with encryption device/no synch. possible)

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it is ok with me  
no hard feelings  
we will try again and if it wont work  
i will a ask prommuission to qrx  
ok///zar  
ok ok ok

(--- THEN TO ARQ-E-288 BUT NO SYNCH WITH '6XM8'---)

(--- BACK TO BAUDOT---)

ok ok ok,  
ok ok  
but pls pls as as as  
i have to get aprovel  
ok ok ok, pls as  
tks tks tks  
as 5 m

(--- PAUSING FOR A COUPLE OF MINUTES ---)

good news  
we can close now  
it was a pleasure working with you  
ok ok  
many thanks and regards  
xxkk  
i dont understand 88

(--- PAUSING FOR ABOUT 2 MINUTES ---)

ok

to you too

gb gb gb gb gb gb

(--- S. OFF ---)

The Israelis have problems with their equipment very often. In August the link was down for several weeks due to technical problems with the encryption device. They were back to normal on 23/08/1995.

'CJL' and 'WJI':

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'CJL' is a station which is listed in many publications as the Cypriot MFA in Nicosia. The location may be right, however the user is again one of the Israeli intelligence services.

'WJI', the other end of the link is a station located in Italy, probably somewhere in the north-eastern part of the country. This was indicated by rough DF-analysis and propagation characteristics. The user is probably one of the Italian intelligence services.

There are normally 3 skeds per day, with limited weekend activity. From Monday to Friday you can hear both stations at 07:00, 11:30 and 15:00 UTC Saturday normally has 1 or 2 skeds only.

The regular frequencies in use are 16339.50 kHz ('CJL') and 17526 kHz ('WJI'). Modes used are ARQ-E-96 with a 4 character rep. cycle and 100 Baud Baudot for the call-up procedure.

The following technical problems, operator errors, operator chatter, technical data and transmission characteristics gave away the real users of 'CJL' and 'WJI', thus definitely ruling out the MFA Nicosia theory:

- 'WJI' signed off with "ciao @@@@ shalom".
- 'CJL' uses Baudot with 100.87 and 340 Hz, whereas 'WJI' uses Baudot with exactly 100 Baud and 850 Hz shift. Like on the link from Israel to Germany, these characteristics show the use of different equipment, indicating a multinational operation.
- The past weeks 'CJL' transmissions often carried the audio of the MOSSAD-number-station transmitting on 17410 kHz.
- The date-time group used by 'WJI' is in Italian, the one used by 'CJL' is in English. Cypriot diplos would for sure not use Italian date time groups !
- 'CJL' was heard several times, accidentally transmitting in 3-channel VFT FEC-A-192, a mode used by several other Israeli intelligence outlets



14780.50	CJL	ARQ-E-96/ITA-2	100.87
15721.50	CJL	ARQ-E-96/ITA-2	100.87
16217.00	WJI	ARQ-E-96/ITA-2	100
16339.50	CJL	ARQ-E-96/ITA-2	100.87
17526.00	WJI	ARQ-E-96/ITA-2	100

'M4W' / 'RK2':

'M4W' is the "Israeli" side of the link. It is probably identical with station 'CJL' because:

- It had crosstalk from a MOSSAD-number station on the carrier during the week that this was also experienced on 'CJL' transmissions.
- It is sometimes heard transmitting in ARQ-E-96 with a 4 char. rep. cycle, when signing on at 08:20 UTC.
- 'M4W' has been heard using 16339.5 kHz (accidentally). As soon as the operator realized his mistake, he switched over to the regular working frequency.
- 'CJL' has been heard testing on the 'M4W' working frequency of 16129 kHz.

DF-analysis on the station pinpointed it to the eastern part of the Mediterranean area, somewhere in the area of Northern Israel or Lebanon.

'M4W' uses Baudot telegraphy with 75 Baud, 1 stopbit per char. and the standard "Israeli shift" of 330-340 Hz.

Here is a typical example of 'M4W' traffic:

— — —

[illegible]

ok ok qsa 4 qsa 4  
i grü too grü grü  
pls qso qso qso  
ok ok ok tks tmxqs      have a nice day  
bybybyby by by by

'RK2' is located in or very near Moscow. It is probably an outlet also used for SOUD ("Brotherhood") transmissions. The station uses the standard eastern block 500 Hz shift and Baudot with 75 Baud and 1.5 stopbit. As in the SOUD-transmissions, the RY test-tapes are sent shifted as 4646.....

Here is an example of an 'RK2' transmission:

— — —

[illegible]



Here are a few text samples from the VFT-stations :

— — —

de

rsb1 rsb1 rsb1

[illegible]

1234567890 1234567890 1234567890 1234567890

qtc qtc

```
+ + + ccccccccccccccccccccccccccccccccccc
```

277            221620            178 gr

sahst nufms ~llgv witrc pbtug lovon rpwus yuaes diuwp jirqh

wlrkm yzmy p mebsb taodb lywvv pyh pz vnfht rwitc twcfz vyzhu

```
(.....rest deleted.....)
```

dlwzt bemzi xadok wtslb lnnhm~wjhex tpwoi euauw trgxz wdurp

ijqdb ybxau edqvc kjvnn ntuzau bgrey xyuky vubhd

ar++

de

cam cam cam

`ryrryrryrryrryrryrryrryrryrryrryrryrryrryrryrryrryrry`

gru gru gru

ar                      ar                      ar                      ar

ar va    ar va

de

cam cam cam

r y r y r y r y r y r y r y r y r y r y r y r y r y r y r y

qtc    qtc

494            091535            598 gr

lhvno oyxut rksyp dgfet jodcc yexao enxgt gydpk iydbv boses

ihrrj yeuon rzhwg omjgw wyngv nmoqc mtskb mldai rzjsy xqwiw

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(.....rest deleted.....)
```

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(.....rest deleted.....)
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bsaml nzmet bmbth ogrfb puhgf qhzre cfoxo nziop

nnnn

de

cif9   cif9   cif9

r y r y r y r y r y r y r y r y r y r y r y r y r y r y r y

1234567890 1234567890 1234567890 1234567890

gru gru

[illegible]



```

tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb
ryryryryryryryryryryryryryryryryryryryryryryryryryryryryry
tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb   tfb
ok ok ok ok
tkz tks
zbx 4 qsa 4 qsa 4 zbx 4
i qru qru qru int qtc qtc qtc qtc

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The stations can be heard on the following frequencies:

Frequency	Callsign
12179.80	TFB daily sked at 13:00 UTC
12544.80	RSB 1 (QRT ?)
13404.00	???
14594.00	???
15852.30	PTI 2
16099.80	???
16286.20	RSB 1 (QRT ?)
16339.50	CAM operator error !
19227.10	CIF 9 daily sked at 09:00 UTC
19243.00	CAM daily sked at 08:00 UTC
19406.20	???
19911.00	PTI 2

'KWO':

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This station was a daily guest on 18568.5 kHz and was last heard about 1 1/2 years ago. The mode used was ARQ-E-96 with a rep. cycle of 8 characters. I never managed to locate the other end of the link. The link was normally established at 12:00 UTC, although 'KWO' was often on the air about 30 min. earlier with idle signals. From the operational messages seen on 'KWO' transmissions I would suggest that this was the Israeli side of the link.

Here is a typical 'KWO' sample :

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---
ryryryryryryryryryryryryryryryryryryryryryryryryryryryryry
the quick brown fox jumps over the lazy dog .
de kwo
ryryryryryryryryryryryryryryryryryryryryryryryryryryryryry
the quick brown fox jumps over the lazy dog .
de kwo
ryryryryryryryryryryryryryryryryryryryryryryryryryryryryry
r r r r
r r r r
r r r r r r r r r r
i qsa 3 zbx3
i qru qru qru
int qtc qtc

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okokokokok tks pls rpt rpt  
tks tks by dear  
by by by by ar va

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I hope we have managed to draw your attention to this very interesting group of stations. If anybody can provide additional information on these or other similar stations, please feel free to post it to Ary. We are especially interested in any similar activity heard outside of Europe.

Thanks for your efforts OM. Good stuff ! Well, that's all for now folks, it's time to sign off. Please send me your findings, loggings and news. I am looking for people who can tell me more about the navigation signals between 1600-3000 kHz. I'd like to cover them in a future edition of the newsletter. Write me for more info. Bye ! -Ary-